THE PURCHASE OF HOME COMPUTERS: CHILDREN'S PARTICIPATION IN THE DECISION PROCESS AND FAMILIES' SUBSEQUENT PRODUCT SATISFACTION

by

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STATEMENT BY AUTHOR

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ABSTRACT

In this study three aspects of child participation in family decision-making for home computer purchases are examined. These aspects are the extent to which children actively participate at each decision stage, factors which affect this participation, and the affect of child participation on family satisfaction with the purchased home computer. Children participate most actively at the beginning stages of the decision process: initially suggesting the computer purchase, discussing for what activities to use the computer, and providing suggestions on desired software. The children are least active at deciding how much money to spend, deciding where to purchase the computer and actually purchasing the computer. Five significant factors identified that affect a child's participation include whether or not the computer was mainly purchased for the family's children's use, child's age, sex, number of siblings, and family income. The child's participation does not significantly affect family satisfaction with their home computer.

CHAPTER 1

INTRODUCTION

The purpose of this study is to examine children's influence in the family decision-making process of purchasing a home computer. The study investigates whether or not children are important participants in purchasing home computers; and if they are important, then in what ways or at what steps in the purchase process do they contribute. The specific information collected to indicate children's influence in the purchase process includes: 1) the children's participation level at each step of the purchase process, 2) the factors that may influence a child's participation, and 3) the family's overall satisfaction with the home computer purchased.

In this study children between the ages of 5 and 18 years old whose families own a home computer are the population group. A home computer is defined as any undedicated computer used primarily in the home. The purchase process is examined from the problem recognition stage, through the information search, to the final decision.

The family is an important consuming unit. How families approach the problem of purchasing goods and services that they need is the basis for many studies. The research in this area has focused upon three aspects of the family decision-making process: the role structure of the family, the pattern of the interaction and exchange

of information among family members, and the differences in the motives, preferences, and values of family members (Sheth, 1974).

The research focusing on the patterns of interaction among family members has shown that members exert different amounts of influence on the purchase of a product (Davis, 1974; Szybillo, 1977). Most family decision-making research has emphasized the interactions of husbands and wives. Choosing to consider only the husband and wife of a family may be based upon the nature of the decision studied, or it may be due to a desire to simplify the research problem. Only a few researchers have included the participation of children in the family decision-making process (Filiatrault, 1980; Jenkins, 1978; Szybillo, 1977; Ward, 1972). Such research shows that children often play an influential part in family decisions, and that their participation varies depending upon the decision in question. To date the studies of children's participation in family decision-making have been preliminary; clearly more comprehensive research on children's participation in family decision-making is needed.

Generally, research in relation to the three aspects of family decision-making has examined how families purchase a specific product; studies have focused upon products such as homes, cars, and breakfast cereals. However, one cannot generalize family members' influence across product categories (Davis, 1974). Thus, to understand children's roles in the purchasing of home computers, research is needed that focuses upon this product itself.

This is a particularly timely study due to the increase in the number of families purchasing home computers. In 1984 it is estimated

that 5.5 million home computers were purchased (Makers, 1984). A Louis Harris poll of 1356 individuals found that 4 out of every 10 people interviewed planned on purchasing a home computer in the next 5 years (Kirchner, 1984), and another study reported 13% of surveyed consumers planned on purchasing a home computer in 1985 alone (Big, 1985). Thus, within the next few years an important percentage of the U.S. population will be facing the problem of purchasing a home computer.

Studies indicate that the process of purchasing a home computer is a difficult one for many families. Consumers are spending several months shopping for home computers before purchasing one (Mace, 1983). Even so, many families are still disappointed with the home computer they purchase. According to a study by Links Resources Corporation, only 25% of the people who own a home computer are currently using it (Zientara, 1983). Thus, it would seem that families' purchase decision-making processes are not effective in providing them with a satisfactory product. Hopefully, this research project will provide information about the purchase process for home computers that eventually may help families improve their decision-making effectiveness.

The results of this research will expand the consumer field knowledge base in several ways. First, it will contribute to the understanding of children's influence in family decision-making by examining their participation at different steps of the purchase process. Second, it will provide information about a family's purchase process for a high-tech, relatively unfamiliar product -- the

home computer. And third, the research project will aid in the understanding of the affect child participation in family decision-making may have on family satisfaction with a purchased product.

Research Questions

When considering the family decision-making process for purchasing a home computer:

1) to what extent do children, as a group, actively participate at different decision stages?

2) what factors influence the extent to which a child participates in the overall family decision-making?

3) what is the contribution of a child's participation in the purchase process to the family's satisfaction with the home computer purchased?

Definitions

1. home computer = a computer system (which includes a keyboard and a undedicated central processing unit) that is used primarily in the home.

2. family = "two or more persons related by blood, marriage, or adoption who are of the same or adjoining generations" (Population, 1978).

3. family member influence = direct influence due to participation in an activity by a family member.

4. decision-making process = the sequence of events that includes recognizing that a decision is needed, identifying and weighing appropriate alternatives, and choosing among or resolving alternatives (Deacon, 1981, p. 88).

5. family decision-making = a family involved in the above decision-making process.

6. satisfaction = "the extent to which consumers feel subjectively pleased with their ownership and usage of (a) product" (Westbrook, 1978).

CHAPTER 2

REVIEW OF LITERATURE

This research study will examine three main aspects of children's participation in family decision-making for purchasing a home computer: 1) children's participation at each decision stage, 2) factors that affect this participation, and 3) the influence that child participation has on family satisfaction with a home computer. In the following review of literature each of these aspects will be discussed to provide background knowledge to the research problem. First, operationalizing family decision-making for measurement purposes is discussed. Second, expected children's participation, as well as factors that may affect this participation, in family decision-making will be reviewed. Next, factors that may affect joint family decision-making, as proposed by Jagadish Sheth (1974) will be presented. Finally, the potential contribution of a child's participation on family's satisfaction with their home computer will be hypothesized.

Stages of Decision-Making

When researching joint family decision-making the decision-making process must be operationally defined. The process of how families make purchase decisions can be measured in different ways. An extensive study, by Harry L. Davis and Benny P. Rigaux (1974), examined how husbands and wives each influence 25 household purchase

decisions. In this study the decision process is defined in terms of three stages: 1) problem recognition, 2) search for information, and 3) final decision. Their research showed that husbands and wives have different levels of influence for the purchase of a product, depending on the stage of the decision process. However, this influence at specific stages is not generalized across product categories (Davis, 1974).

Syzbillo (1977), as well as using the decision-making model as defined by Davis (1974), uses an expanded decision-making model. In this model he defines various sub-decisions that a family would need to make before reaching their final decision. For example, in the major decision, "to have dinner at a fast food restaurant," he defines the sub-decisions as "when to go, what type of fast food restaurant to go to, and how much to spend." This provides the researcher with a more detailed view of the decision-making process.

When a family wishes to purchase a home computer, there are several sub-decisions they must make during the purchasing decision process. These sub-decisions are well illustrated in a comprehensive article in Consumer Reports, September 1983 (Special, 1983). This article is designed to introduce consumers to computers and to help them make purchasing decisions. Consumer Reports is recognized as an important consumer magazine that provides the type of information that consumers need. The information presented in the article includes the following five areas: focusing upon one's family's computer needs, deciding how much to spend on a computer system, matching computer characteristics with family needs and budget, choosing which specific

computer to purchase, and deciding where to purchase the home computer. Thus, along with the traditional three decision stages, these seem to be sub-decisions that a family must act upon in the process of purchasing a home computer.

Children's Participation by Decision Stage

Having defined different stages and sub-decisions that exist for a particular decision process, family members' influence can be measured. At this point it is important to clarify the concept "influence." Past research studies have been criticized for not clearly defining this concept (Ward, 1972; Rossiter, 1978). This study will examine the children's influence by measuring the direct, active participation of the children in family decision-making. This study does not include a child's indirect influence: "a passive role in which the decision maker takes another family member's needs indirectly into account" (Rossiter, 1978).

Generally, children seem to exert minimal influence in family decisions for most major product categories, including major appliances (Jenkins, 1978). However, in some decision categories children do participate actively in the family decision-making. Children are perceived as being highly influential in decisions about family activities such as vacation planning (Filiatrault, 1980; Jenkins, 1978) and eating out at fast food restaurants (Szybillo, 1977; Nelson, 1978) across the different stages of decision-making.

Research suggests that children play an important role at the problem recognition stage. Children often request that items be

bought, and it seems that children who repeatedly ask for products receive them more often (Ward, 1972). Therefore, children may influence the family decision-making by requesting a home computer purchase.

Children also may be active participants at other stages of family decision-making. Peter Scharf, a psychologist at Seattle University, believes that for the subject of home computers many families may experience a shift in the family's hierarchy of authority. He bases this upon the idea that children, through exposure to computers at school, may be the most computer literate member of the family (Caruso, 1983). Due to this, children may be very important participants at the sub-decision "deciding for what activities families will use a home computer." In a study on families planning vacations, the sub-decision "deciding types of activities for the family to participate in" was child dominated (Jenkins, 1978). Thus, children were the most influential family members for this sub-decision.

Children may have information sources available to them to which their parents do not have access. For instance, a school computer program or teacher may provide the child with information that aids in purchasing a home computer. According to a study by Family Computing the computer system used at a child's school is likely to influence the brand of computer the family purchases (Newsboard, 1984). As stated in the article, "Apple, the most common computer in school, registered a 42% higher incidence than average in households where children used a computer at school" (Newsboard,

1984). It seems that schools may be an important information source for children.

Having access to valuable information sources may lead children to be influential in the sub-decision, "choosing which specific home computer to purchase." Children are known to be influential when choosing some types of products. In a study on purchasing breakfast cereals, for 61% of the families it was the child who actually chose which cereal product to purchase (Atkin, 1978). Granted, a home computer is a more major purchase than breakfast cereal; however, children may still be influential in the sub-decision "choosing which specific home computer to purchase." Overall, it may be that children are more active participants in family decision-making for home computer purchases than might be initially expected.

Factors That Affect Joint Decision-Making

In order to provide a framework for research, several models have been proposed that provide a theoretical basis for family decision-making as it relates to consumer purchases. Jagadish Sheth (1974) has proposed one such theory of family buying decisions. His theory distinguishes between autonomous and joint decisions. He defines an autonomous family decision as a decision made by a single family member. A joint family decision is one made by several or all members of the family (Sheth, 1974). This research project will examine the family decision-making that occurs when a family purchases

a home computer by using Sheth's (1974) model as a framework to analyze appropriate variables.

The family buying theory predicts that social class, role orientation, family life cycle, perceived risk of a decision, importance of the purchase decision, and time pressures felt by the family members are all factors that affect whether or not a decision will be made by a single family member or as a joint family decision. The model allows for each individual to bring their own predispositions (in the form of buying motives and evaluation biases) of brands and products to the decision process. These predispositions are a function of the individual's personality, life style, perception of his social class, and his role orientation within the family and reference groups. The availability of information from a variety of sources and the interactions of the family itself also influences each individual's role in the decision process. Sheth's family buying model is an appropriate framework to use for the variables researched in this project.

Sheth (1974), in his family buying model, proposes that there are several factors that influence whether or not a family decision is made autonomously or jointly. One of these factors is the family life cycle stage. The model predicts that the extent of the joint decision-making will vary with the age of the family, with older families' children having more influence (Sheth, 1974). This has been demonstrated in family decision-making study for the decision of planning vacations (Jenkins, 1978) and for the decision to eat out (Nelson, 1978). In these situations, children of families whose

youngest child is six years or older are perceived to have more influence in the decision process than families with younger children (Jenkins, 1978). Therefore, families with older children may be more likely to purchase a home computer through a joint family decision than a family with young children.

Sheth's theory also predicts that the family's social class is a factor in how a decision is made. Both income and education level of parents are indicators of social class. In his study on family vacation planning Jenkins (1978) found that, although income was not a significant factor, the higher the education level of the father then the less perceived influence the children had on the decision process.

The importance of a specific buying decision to a family also will affect the type of decision-making that occurs. The more important the decision is then the more likely it is to be made jointly by all family members, including the children (Sheth, 1974). Measuring the importance of a family buying decision can be challenging. For this study, importance will be measured in two ways. As a measure of importance to the whole family, the percentage of annual income spent on the home computer system will be calculated. Also, whether or not the computer is purchased mainly for the children's use will evaluate the importance of the purchase to the child.

According to Sheth's family buying theory, each individual has their own predispositions that they bring with them to the family decision-making process. One of the factors that affects this predisposition is the individual's role orientation within the family.

For the purpose of this research study, an individual's role orientation is operationally defined by his/her gender, age, and family structure elements such as the number of children in the family, parents' age, parental composition of the family, and the employment status of the parents.

A child's gender may affect his/her participation in family decision-making. Recent studies have shown that boys are using computers more than girls. Part of the reason for this is because parents are reluctant to spend money on computers or computer-related instruction for their daughters, in contrast to their sons. In terms of computer instruction in summer camps or classes, the percentage of girls enrolled decreases as the cost of the programs increases (Miura, 1984). Parents also are reported to be reluctant to buy home computers for their daughters (Beyers, 1984). Today, 25% more boys than girls have access to a computer in their home (Beyers, 1984). This shows sex differentiation is occurring within families in relation to home computers. It may be that this differentiation also acts during family decision-making for the purchase of a home computer. Thus, male children may be more active participants in family decisions for purchasing a home computer than female children.

The age of a child is also an important factor in the child's role orientation. In the family planning of vacations older children had greater influence on the process than did younger children (Jenkins, 1978). Also, mothers yield more often to a child's request for breakfast cereal as the child's age increases (Ward, 1972). Scott

Ward (1972) suggests that as a child matures other family members consider the child's ideas and suggestions with more respect.

Another factor that may affect a child's role orientation within a family is the family structure itself. A family's structure is partially defined by the number of children. As family's size increases, children are perceived to have more influence in the decision to eat out (Jenkins, 1978). The family structure also is affected by parent's age. One study indicates that the older the father, then the more influence he perceives children of having in family decision-making (Jenkins, 1978). Family structure also includes whether the composition is of a two parent or single parent family. Does family member participation differ according to the number of parents involved? Also, how does having two working parents affect a child's participation in family decision-making?

Research related to these questions indicates that as the time spent away from home due to work increases for fathers, the fathers perceive their children as having more influence in family decision-making (Jenkins, 1978). Jenkins theorizes that this is due to guilt feelings of the parent. Does the same relationship exist for single parents or dual-working parents who also may be pressed for time with their children?

Affect of Child Participation on Family Satisfaction

It is important to examine family decision-making patterns and influences, but it is also important to examine the effectiveness of family decision-making. As this study has focused upon children's

role in family decision-making, investigating the affect child participation has on family satisfaction with the home computer purchased is the next logical step.

Family satisfaction with home computers, in relation to child participation in decision-making, is an especially relevant issue because reports indicate that consumers are often dissatisfied with their purchased home computers (Games, 1983; Zientara, 1983). For instance, a Links Resources Corporation survey of 2000 personal computer owners found that 25% of computer owners were not using their computers (Zientara, 1983). However, a Gallop Poll found that only 2% of computer owners expressed "little satisfaction" with their home computers, and only 1% reported that they were "not at all satisfied" (Games, 1983). An estimate of 3% versus 25% dissatisfied consumers of home computer is quite a large range. This is a situation that definitely deserves attention.

Klein and Hill (1979) have proposed a theory of family problem-solving effectiveness that is applicable to this research. They define family problem-solving effectiveness as "the degree to which family problems are solved to the mutual satisfaction of family members." The authors suggest that problem-solving effectiveness may be measured by subjective ratings of satisfaction for the problem outcome. For the purpose of this study, satisfaction with the home computer purchased will be the measure of family problem-solving effectiveness.

In Klein and Hill's theory, several factors influence the family problem-solving effectiveness. One of these factors is the

centralization of power within the family. Centralization of power is defined as "the degree to which influence over the outcome is concentrated in a family member or subgroup during problem-solving" (Klein and Hill, 1979). This theory states that a high degree of power centralization in family decision-making will negatively influence family problem-solving effectiveness.

Family decision-making research has shown that parents generally monopolize the overall decision process. If the family's children actively participate in the purchase of the home computer, then the parents' power centralization is diffused. Thus, with more participation of the family's child, the effectiveness of the decision-making should increase. From this, it is expected that a family's child's participation in the home computer purchase should lead to more family satisfaction with the home computer.

Other factors may influence a family's satisfaction with their home computer. These factors need to be controlled so that the affect of joint decision-making on problem-solving effectiveness can be carefully examined. A study by Links Resources was recently conducted through indepth interviews of 100 personal computer owners on the factors that affect a family's use of their home computer. In the study, the length of computer ownership was examined in relationship to computer use. Of families who had owned their computers for less than six months, 39% were not using them. However, of those who had owned their home computer for six months to one year 21% were not using them, and of those who had owned the computer for more than one year only 17% were not using them (Zientara, 1983). Thus, families

who have owned their computers longer use them more often. This same study also found that the more money spent on the home computer system, then the more use it received (Zientara, 1983). Perhaps if a family is not using their home computer, it is an indication that they are not satisfied with the product. Thus, length of computer ownership and dollar amount spent on the home computer system are factors that need to be controlled in the satisfaction analysis in order to evaluate the affect of child participation, in family decision-making, on family satisfaction.

It is hypothesized that two other factors may be intervening variables with child participation. These two variables are 1) whether or not the computer was mainly purchased for the family's children's use, and 2) the degree to which the family's children have met the parent's expectations in terms of time spent using the home computer. Therefore, these two variables also will be controlled for in the satisfaction analysis.

CHAPTER 3

METHODOLOGY

The subjects for this study are children aged 5 to 18 years old whose families own a home computer. Because only approximately 2% of all households currently have a home computer (Zientara, 1983), it would be very expensive and inefficient to draw a sample from the general U.S. population. Instead a sample of 5000 households was drawn from the magazine Compute!'s subscriber list of 200,000 names. From this sample, every other household on the list was surveyed. Compute! is a logical choice for a population group as it has a relatively large subscriber list and seems to be designed for families with children. Compute! readers have the highest percentage of computer ownership of any group of home computer magazine readers (Compute!, 1984). Thus, the individuals drawn from Compute!'s subscriber list are located nationwide, have a high probability of owning a home computer, and have a fair probability of having children.

Data Collection

Data was collected through the use of a mail questionnaire. Sample individuals were mailed a cover letter, questionnaire, post card and return envelope. (See Appendix A for data collection materials.) The cover letter was on University of Arizona letterhead and signed by the researcher and the University of Arizona faculty

advisor. The letter introduced the researcher, explained the purpose of the study, promised the respondent confidentiality, and explained the procedure of the study in relation to the respondent's role. Each family who received the questionnaire was directed to complete it only if the family had both a home computer and a child between 5 and 18 years old. The parent who was most active in the home computer purchase was asked to complete the questionnaire.

The questionnaire items were printed on 11" X 14" legal size paper, folded and stapled to form a booklet. The cover of the booklet had on it: a simple illustration of a computer, a study title, a brief statement redescribing the study, directions for completing the questionnaire, and the researcher's address. The questions were on the six inside pages of the booklet. The back cover of the questionnaire had on it an invitation to make additional comments, a thank you, and instructions to indicate on the return envelope if the respondent would like a summary of the research results. The questionnaire format generally follows the design guidelines described by Dillman (1978).

Everyone who was not eligible or did not want to participate in the research was asked to return the enclosed postcard indicating their participation status. A return envelope also was included with the questionnaire. It was addressed to the researcher at the University of Arizona and was postage-paid.

The questionnaires were mailed out at bulk rate. For each questionnaire that was mailed, the family was assigned a number from 1000 to 3500 in order to protect their confidentiality. One week

after the questionnaire was mailed a postcard reminder was sent to all those who had not returned a questionnaire or postcard. A phone number was included on the postcard so that anyone who needed another questionnaire could call collect to receive one. Two weeks later a new cover letter, the questionnaire, the postcard, and a return envelope were mailed to those individuals who had yet to return a questionnaire or postcard. This questionnaire was mailed first class in order to check on the number of incorrect addresses. Only 20 questionnaires (.8%) were found to be undeliverable.

Of the remaining 2480 households who received questionnaires, 1606 (64.8%) of the households responded by returning either the questionnaire or the postcard. A total of 448 (18.1%) usable questionnaires resulted from this response. Many of the households surveyed were not eligible to participate in the study: 716 households (28.9%) reported that they did not have children between 5 and 18 years old, 91 households (3.7%) stated that they did not own a home computer, and 79 households (3.2%) had neither children nor a home computer.

Other returned questionnaires were not included in the data analysis for the following reasons: the responding parent was not the most active parent in the purchase process for 17 (.7%) of the questionnaires; the questionnaire was incompletely answered by 35 (1.4%) respondents; and children, rather than their parents, completed 33 (1.3%) of the questionnaires. Also, of the respondents, 187 (7.5%) of the households indicated on the postcard that they did not want to participate in this study.

Sample Description

In the questionnaire, items were included to provide general, descriptive information about the families who responded to the survey. (Tabulations of this information are included in Appendix B) From these items, the following descriptive demographics are known about the families. An overwhelming 92% of the families include a married couple. The families have an average of 1.9 children. The fathers' ages range from 21 to 68 years old, with a median age of 40.4 years (mean age of 40.8 years). The mothers' ages range from 25 to 63 years old, with a median age of 38.3 years (mean age of 38.3 years). Over 40% of the mothers have completed a post-secondary educational program, while 60% of the fathers have completed such a program.

In terms of family income, 50% of the families have an annual gross income of $40,000 or greater. The number of employed parents in the household is fairly evenly split: 56% of the families have 2 employed parents, 44% have one employed parent, and 1% have no employed parent. When questioned about the use of their home computer, families responded that they use the computer between 0 and 173 hours per week. The mean amount of time spent on the computer per week is 19.4 hours, with a median amount of 13.7 hours.

This research project is specifically concerned about the purchase of a home computer by families. Thus, descriptive questions about the home computer purchase are appropriate. Most of the families purchased the home computer for use by the family as a whole (51.3%); 20.3% of the computers were purchased primarily for the

family's children, 25.9% for the responding parent's use, .2% for the spouse's use, and 2.0% for a family member's business use.

The families purchased a wide assortment of home computers; everything from little known brands such as Tomy Tutor to common computers such as the Commodore 64. The home computers were purchased an average of 19.5 months before the questionnaires were completed. The families initially spent between $0 and $9000 for their computer (median amount of $600). Since the initial purchase, the families spent between $0 and $5000 on additional hardware components (median amount of $215). Overall, they spent a total (initial plus additional monies) of $0 to $19,000 on computer hardware, with a median amount of $1000. The families plan to spend between $0 and $9999 more on computer hardware (median amount of $215) in the next year.

When questioned about software purchases, the families reported spending between $0 and $5000 (median amount of $200) since the initial purchase. These families plan to spend between $0 and $3000 (median amount of $100) more on software in the next year. Between $0 and $650 had been spent for computer repairs, with a median amount spent of $0.13 (mean amount of $21).

The 448 families who responded to the survey have a total of 814 children. The majority of these children are boys, 57.6%. The children's ages range from 5 to 18 years old with a median age of 11.1 years. The parents' perceive the children as spending between 0 and 72 hours a week working on the computer, with a median amount of time of 3.0 hours.

When the most active child from each family was identified (for the purpose of utilization with research question #2 and #3), the children's characteristics changed slightly. Of the 448 most active children, 66.4% are boys and 33.6% are girls. The children's ages still range from 5 to 18 years old, but the median age is slightly older, 11.8 years. These children are perceived by their parents as spending between 0 and 72 hours a week using the computer, with a median amount of 4.4 hours.

Limitations of Study

This study was conducted with the desire that the individuals sampled be representative of the U.S. families who own home computers and have children between 5 and 18 years old. The main limitation of this study is whether or not the surveyed individuals are truly a representative sample. First, it may be that the surveyed individuals who responded to the questionnaire differ in some ways from those individuals who did not respond. Of the households surveyed, 34.4% of the households did not respond in any manner; why they didn't respond and how they may differ from the respondents is not known. An additional 7.5% of the households responded but didn't choose to complete the questionnaire. This problem of nonrespondents is one that many survey research projects experience.

A second related problem arises because the sample was drawn from a computer magazine's subscriber list. It may be that computer owners who subscribe to a computer magazine differ from computer owners who do not subscribe. Thirdly, it may be that subscribers to

Compute! magazine have different computers (and, thus, perhaps different purchasing experiences) than the overall computer owner population. The potential for this problem is especially evident for magazines that are specialized towards a particular computer brand; for instance, the magazine Cider is designed for Apple owners.

Therefore, in order to generalize this study's results beyond the sample group, a comparison of computers owned by the studies' families with the computer types available in the U.S. was attempted. It is extremely difficult to do this type of comparison because data on computer sales is incomplete and potentially misleading (Shaffer, 1986). This data seems to be lacking due to the absence of an industry association's involvement, unwillingness of the computer industry to pay for large scale surveys (or even release sales data they may have to the public), and variations in defining product categories (Shaffer, 1986).

However, the New York Times has reported on the U.S. 1984 unit sales of home computers by manufacturers (Pollack, 1985). This report excludes office personal computers; some of these excluded computers have been defined and included as home computers in this research project's data. Thus, the comparison of computer ownership is further complicated. Given these limitations, though, an estimate of the sample representation of all computer owners with children is possible.

Table 1 illustrates the comparison of home computers owned by the study's families and the U.S. market share of computer manufacturers. Although the percents differ slightly, generally the

TABLE 1

COMPUTER BRANDS: COMPARISON OF FAMILIES' OWNERSHIP

VERSUS MANUFACTURER'S MARKET SHARE

	Computers Owned by Families in Study		U.S. Market Share of Home Computers in 1984*	
Computer Brand	Percent	Rank	Percent	Rank
Commodore	47	1	33	1
Atari	20	2	16	3
Apple	9	3	16	3
IBM	8	4	6	5
Texas Instruments	6	5	--	--
Radio Shack/Tandy	4	6	18	2
Coleco	1	7	6	5
Others	5	--	5	--

* This market share report is based on 1984 unit sales excluding office personal computers. Note that some computer models excluded from this report are included in the figures of computers owned by the families.

rank order of computer manufacturers' market shares matches the rank order of computers owned by the families. The only important exception involves Radio Shack/Tandy computers. This study seems to have less owners of Radio Shack/Tandy computers than one might expect. Perhaps these owners are attracted to computer magazines specializing in their computer brand, rather than subscribing to Compute!. Overall, though, the comparison shows that this sample seems to be a relatively good representation of computer owners.

Instrumentation

This research study is concerned with three different aspects of the family decision-making process for purchasing a home computer. First, the extent of children's participation needs to be examined. Next, the factors that affect the children's participation are of interest. Also to be examined is the influence child participation has on family satisfaction with their home computer.

The survey instrument utilized in the study was designed by the researcher. The questionnaire was pilot tested using 25 parents from a convenience sample. Procedures for the pilot test were similar to that of the primary study. Based on answers from the pilot test, minor changes in directions and layout of items were made. As a further means to establish content validity of the questionnaire, the researcher interviewed a variety of individuals, with varying backgrounds, as to the clarity and meaning of each questionnaire item. As determined from these interviews, a few items were rephrased before the questionnaire was finalized.

Extent of Children's Participation

Traditionally in family decision-making research the decision process has been divided into three categories: recognizing the problem, identifying and evaluating the alternatives, and the final decision (Deacon, 1981; Davis and Rigaux, 1974). Some researchers have gone a step further and divided these three categories into sub-decision stages (Syzbillo and Sosanie, 1977; Jenkins, 1978). These sub-decision stages differ from one problem to the next and are determined by the problem's characteristics. In order to examine children's participation in family decision-making, the home computer purchase process needed to be divided into sub-decision stages.

Using the Consumer Report article on purchasing a home computer as a guideline (Special, 1983), the research identified nine stages of decision-making for the process of purchasing a home computer. The nine stages of decision-making that were identified are: 1) initially suggesting to purchase a home computer; 2) discussing for what activities your family would use a home computer; 3) providing suggestions on desired software; 4) deciding how much to spend on a home computer; 5) overall gathering and sharing information about different home computer systems; 6) identifying the home computers that meet your family's needs and also fits your budget; 7) choosing which specific home computer to purchase; 8) deciding where to purchase the home computer and 9) actually purchasing your home computer.

The parents were asked to score each child, between 5 and 18 years old, on the extent of their active participation in the computer

purchase at each decision stage. The scoring was completed using the following scale: 0 = no participation; 1 = little participation; 2 = moderate participation; 3 = major participation; 4 = extensive participation.

Factors Affecting Child Participation

Independent Variables. The next aspect of the research was to investigate the factors that affect a child's participation in family decision-making. Some of the factors that family decision-making theory predicts may be important include the family life cycle, the family's social class, the importance of the purchase, and the role orientation of the child. In order to quantitatively measure these factors they need to be operationalized. Thus, family life cycle is defined as the age of the family's youngest child's (between 5 and 18 years old). Social class is defined as the family's annual gross income and the father's education level. To measure the importance of the purchase to the whole family, the percent of the family's annual gross income spent for the total hardware cost of the computer system was calculated. To measure the importance of the purchase to the child the question, "Your computer was mainly purchased for whom?" was asked. The role orientation of the child consists of a child's age and sex, plus the child's family structure. Family structure is measured by number of children in the family, parent's age, number of parents in the household, and number of employed parents.

Among the independent variables, the importance of the purchase to the family was coded as a continuous variable. Other

independent variables, including the family life cycle, child's age, number of children in the family, and number of employed parents were coded on an interval scale. Social class was coded as ordinal data. The independent variables such as the importance of the purchase to the child, child's sex, and number of parents in the household were treated as dummy variables. (See Table 2)

Dependent Variable. The dependent variable for this part of research is the child's participation in family decision-making. In order to apply this dependent variable to a multiple regression model, the most active child of each family needed to be identified. The most active child per family was defined as the child with the highest total participation score (a summation of the scores from purchase step #1 through #9). If two or more children in a family had the identical total participation score, then the most active child was selected at random.

As a check on the validity of the total participation score calculated for the children, the question "On a scale from 0 to 100, with 0 being absolutely no participation, the amount my children participated in purchasing a home computer is ___." was also asked. The Pearson correlation between the parent's response to this item and the summed total participation score proved to be .74 at a probability of $< .001$. As a measure of reliability, the internal consistency was calculated for the nine stage scale. The alpha coefficient of .93 suggests a high degree of reliability. This alpha coefficient and the significant Pearson correlation validates the use of the calculated

TABLE 2

VARIABLES IN REGRESSION MODEL:

FACTORS AFFECTING CHILD PARTICIPATION

Factor	Definition	Coding
Family life cycle	Age of the family's youngest child (between 5 and 18 years old)	Interval
Social class	Two measures: (1) family's annual gross income, 10 categories from $0 to over $60,000; (2) father's education level, 10 categories from no formal education to completed graduate school	Ordinal Ordinal
Importance of purchase to whole family	Percent of family's annual income spent on the computer hardware	Continuous
Importance of purchase to the child	For whom the computer was mainly purchased. Reference group - children, 4 other groups: self, spouse, family as a whole, family member for business use only	Dummy
Role orientation of child	Child Characteristics (1) Child's age between 5 and 18 years old; (2) Child's sex, reference group - male; Family Structure (1) Number of children in family between 5 and 18 years old; (2) Responding parent's age; (3) Number of parents in household, reference group - one parent; (4) Number of employed parents, between 0 and 2	Interval Dummy Interval Interval Dummy Interval
Child participation	Summation of child's score at each of 9 decision stages for purchase of a home computer. Score at each stage ranges from no participation (0) to extensive participation (4)	Ordinal

total participation score as a dependent variable. The child's participation score was coded as a continuous variable.

Affect of Child Participation on Family Satisfaction

Independent Variables. Once the factors that affect a child's participation in family decision-making are examined, the next question arises: to what extent does a child's participation affect a family's satisfaction with their home computer? As in the last question addressed, "child's participation" is defined as each family's most active child's total participation score. This independent variable was coded as continuous data. To measure the affect of a child's participation, several other potentially important factors need to be controlled. These factors include length of computer ownership, computer expense, importance of the purchase to the child, and child computer use in relation to parent expectations.

The length of computer ownership was measured in months and coded as interval data. The amount of money spent was calculated as the amount spent on the computer hardware at the initial purchase plus additional monies spent on computer hardware. This variable was coded as continuous data. The importance of the purchase to the child was determined by asking for whom the computer was mainly purchased. For whom the computer was purchased was treated as a dummy variable with "for the children" coded as 1 and all other options (for self, spouse, whole family, or business use) were coded as 0. Parents rated the time their children use the computer relative to the parents' expectations at the time of purchase. Ratings ranged from much less

time than expected (1) to much more time than expected (5). This data was coded as ordinal data. (See Table 3)

Dependent Variable. The dependent variable for this part of the research is family's satisfaction with their home computer. The scale used to measure family's satisfaction with their home computers was developed by Dr. R. Westbrook (1980). This Likert type scale consists of 12 statements describing different levels of satisfaction with the purchased computer. Respondents select from strongly agree (5) to strongly disagree (1) for each statement. Then responses are summed for a total satisfaction score. Dr. Westbrook, from repeated trials of the scale, reported an internal consistency of between .75 and .96 using the alpha coefficient (Westbrook, 1980).

When the Westbrook scale was applied to this research, internal consistency of .94 was calculated using the alpha coefficient. As another measure of the applicability of the satisfaction scale, the Pearson correlation between the total satisfaction score of each family and the families response to the question, "On a scale from 0 to 100, with 0 being completely dissatisfied, my family's overall satisfaction with our home computer is ___." was calculated. A Pearson correlation of .67 between these two measures was determined. This correlation, and the alpha coefficient, validates the use of the satisfaction scale. The family's total satisfaction score was coded as continuous data.

TABLE 3

VARIABLES IN REGRESSION MODEL:

CHILD PARTICIPATION AFFECT ON FAMILY SATISFACTION

Factor	Definition	Coding
Child participation	Summation of child's score at each of 9 decision stages for purchase of a home computer. Score at each stage ranges from no participation (0) to extensive participation (4)	Ordinal
Child computer use in relation to parent expectations	Time children use computer relative to parent expectations at time of purchase. Ratings range from much less time (1) to much more time (5)	Ordinal
Length of computer ownership	Number of months since the family purchased the home computer	Interval
Expense of computer	Total amount of money spent on computer hardware	Continuous
Importance of purchase to the child	For whom the computer was mainly purchased. Reference group - children, 4 other groups: self, spouse, family as a whole, family member for business use only	Dummy
Family satisfaction with the home computer	Summation of 12 item scale designed to measure product satisfaction. Response to each item ranged from strongly agree (5) to strongly disagree (1)	Ordinal

Data Analysis

Extent of Children's Participation

Frequency analysis was conducted for all children's participation scores at each purchase decision stage. The children's scores ranged from zero to four at each of the nine decision stages defined for a home computer purchase.

Factors Affecting Child Participation

A regression model was designed consisting of the total participation score for the family's most active child as the dependent variable. The family's youngest child's age, family's income, father's education level, percent of family's income spent on the computer, for whom the computer was purchased, child's age, child' sex, number of children in the family, parent's age, number of parents in the household, and number of employed parents were the independent variables.

After the first multiple regression analysis with these variables it became apparent that too many of the families (24%) were being eliminated from the analysis due to missing answers. Examination of the data showed that removing the two variables in which more than 10% of the respondents had missing data would correct for this problem. Neither of these two variables, parent's age and father's education level, were contributing significantly to the regression model. They both had a very low correlation with the dependent variable: parent's age, .17; and father's education level,

-.04. Thus, these two variables were removed from the regression model and analysis with nine independent variables progressed.

Affect of Child Participation on Family Satisfaction

A regression model was designed with the total satisfaction score for the family as the dependent variable. The independent variables for this model were: child participation score, number of months ago the computer was purchased, amount of money spent on computer hardware, whether or not the computer was mainly purchased for the children, and children computer use in relation to parents' expectations at time of purchase.

CHAPTER 4

RESULTS

The purpose of this study is to examine children's influence in the family decision-making process for purchasing a home computer. The study investigates the extent to which children participate in purchasing home computers, and in what ways or at what steps of the purchase process they participate. Data for this investigation was collected through a mail survey. A questionnaire was sent to 2500 subscribers of Compute! magazine, nationwide. From this mailing, families returned 448 usable questionnaires; these families had a total of 814 children.

Extent of Children's Participation

To address the first research question, "to what extent do children, as a group, actively participate at the different purchase steps," the frequencies of each score per purchase decision stage were calculated. The results of this analysis can be seen in Table 4. Overall, it is evident that the majority of the children had minimal participation.

However, the children's participation level did vary by decision stage. An examination of the number of children with extensive and major participation at each purchase decision step shows that children were most active at "providing suggestions on desired software," "initially suggesting to purchase a home computer," and

TABLE 4

PARTICIPATION OF ALL CHILDREN BY DECISION STAGE

Stage	Extent of Participation (N / %) 4 Extensive	3 Major	2 Moderate	1 Little	0 None	Total N
Initially Suggest	85	102	115	156	350	808
	10.5%	12.6%	14.2%	19.3%	43.3%	
What Activities	58	108	179	204	249	798
	7.3%	13.5%	22.4%	25.6%	31.2%	
Desired Software	104	121	186	132	261	804
	12.9%	15.0%	23.1%	16.4%	32.5%	
How Much to Spend	16	18	48	99	618	799
	2.0%	2.3%	6.0%	12.4%	77.3%	
Gathering/Sharing Information	55	47	96	154	458	810
	6.8%	5.8%	11.9%	19.0%	56.5%	
Meet Family Needs and Budget	20	44	67	111	559	801
	2.5%	5.5%	8.4%	13.9%	69.8%	
Which Computer	53	56	74	117	500	801
	6.6%	7.0%	9.2%	14.6%	62.5%	
Where to Purchase	22	28	40	56	654	800
	2.8%	3.5%	5.0%	7.0%	81.8%	
Purchasing the Computer	39	30	42	49	632	792
	4.9%	3.8%	5.3%	6.2%	79.8%	

"discussing for what activities your family would use a home computer." In contrast, children participated less in "deciding how much to spend on a home computer" and "deciding where to purchase the home computer."

Another way to evaluate this data is to note the percent of children who were active participants (little to extensive participation) at each decision stage. From Figure 1, the reader can see that between 18.3% and 68.8% of the children were active participants throughout the home computer purchase process. An average of 40.6% of the children were active across the decision stages.

The next step was to identify the most active child for each family; these children formed the sample group for research question #2 and #3. Before proceeding to research question #2, the frequencies of each score per decision stage for these children's participation were calculated (See Table 5). From the frequency analysis, it is important to note that the same trends in high and low participation stages exist for the "most active" children group and the "overall" children group. Due to this similarity, use of the most active child per family as the unit of study is valid. The "most active" children had the greatest participation at the "providing suggestions on desired software," "initially suggesting to purchase a home computer," and "discussing for what activities your family would use a home computer" decision stages. The children participated the least at the "deciding how much to spend on a home computer" and "deciding where to purchase the home computer" decision stages.

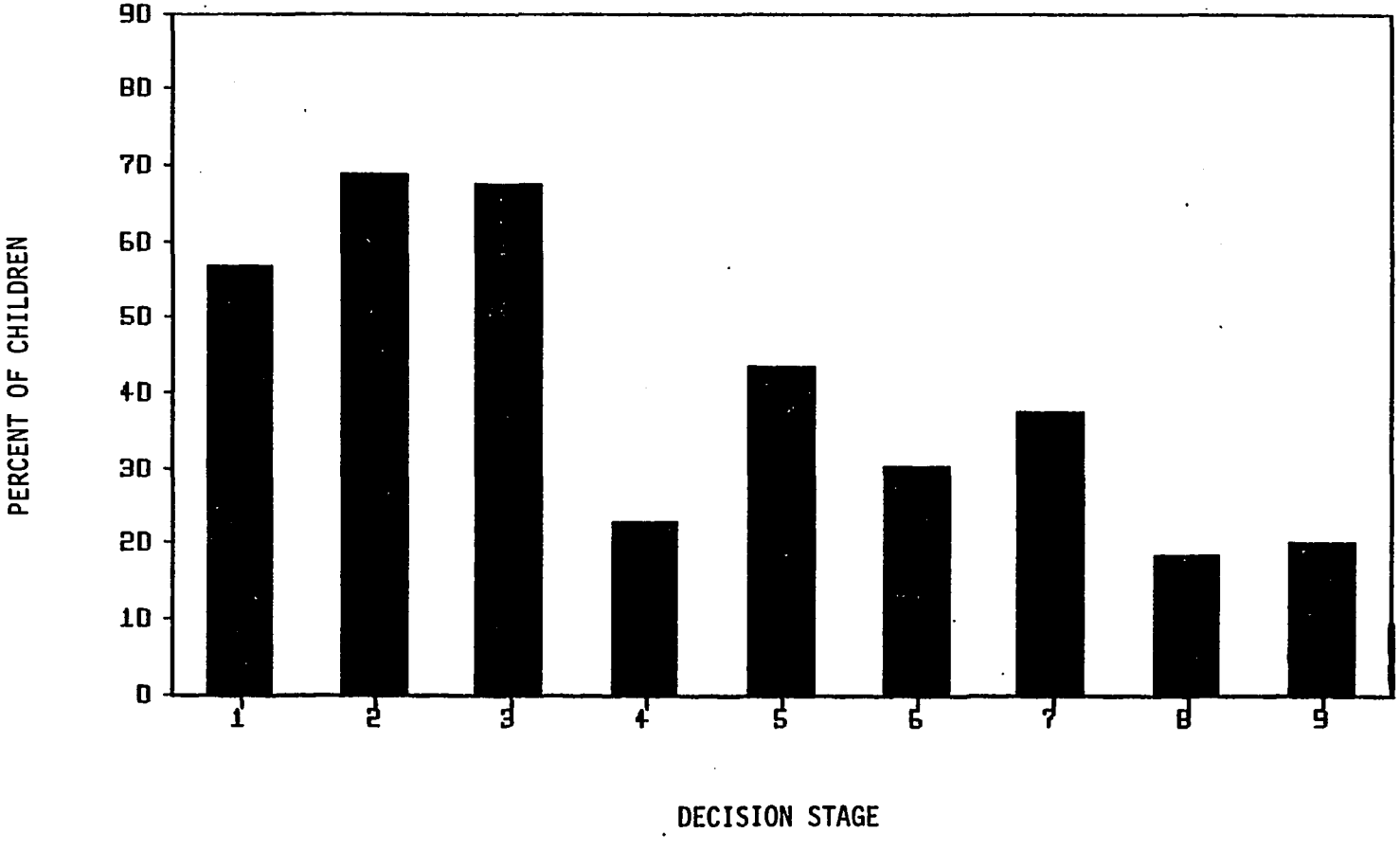


FIGURE 1: ACTIVE PARTICIPATION OF ALL CHILDREN BY DECISION STAGE

TABLE 5

PARTICIPATION OF FAMILIES' MOST ACTIVE CHILD BY DECISION STAGE

Stage	Extent of Participation (N / %) 4 Extensive	3 Major	2 Moderate	1 Little	0 None	Total N
Initially Suggest	81	71	68	77	149	446
	18.2%	15.9%	15.2%	17.3%	33.4%	
What Activities	54	82	116	89	102	443
	12.2%	18.5%	26.2%	20.1%	23.0%	
Desired Software	94	83	104	66	97	444
	21.2%	18.7%	23.4%	14.9%	21.8%	
How Much to Spend	14	14	37	59	319	443
	3.2%	3.2%	8.4%	13.3%	71.2%	
Gathering/Sharing Information	49	38	67	92	200	446
	11.0%	8.5%	15.0%	20.6%	44.8%	
Meet Family Needs and Budget	19	38	49	67	269	442
	4.3%	8.6%	11.1%	15.2%	60.9%	
Which Computer	50	45	46	70	231	442
	11.3%	10.2%	10.4%	15.8%	52.3%	
Where to Purchase	19	20	32	37	334	442
	4.3%	4.5%	7.2%	8.4%	75.6%	
Purchasing the Computer	30	26	28	29	325	438
	6.8%	5.9%	6.4%	6.6%	74.2%	

Figure 2 shows the percent of active participation (little to extensive participation) for the "most active" children at each decision stage. Again, the participation trend is similar to the "overall" children group's participation; however, a higher percent of the "most active" children participated across the decision stages. From 24.4% to 78.2% of these children participated actively at each decision stage, with an average of 49.2% of the children participating across the decision stages.

Factors Affecting Child Participation

Research question #2 asks, "what factors influence the extent to which a child participates in the overall family decision-making for purchasing a home computer?" To evaluate this, multiple regression analysis was applied. Children's overall participation score is the dependent variable in this model. The children's scores range from 0 to 36 with a median value of 7.9 (mean value is 10.2). (See Figure 3)

For the analysis the dependent variable in the regression model was regressed onto the independent variables according to the standard regression method. (SPSS, 1975) The results of this analysis can be seen in Table 6. The first five variables listed in this table proved to be significant in predicting a child's participation in family decision-making. These significant variables are: whether or not computer mainly purchased for child, child's sex, child's age, number of children in the family, and family income.

When the significant variables were controlled for, then the

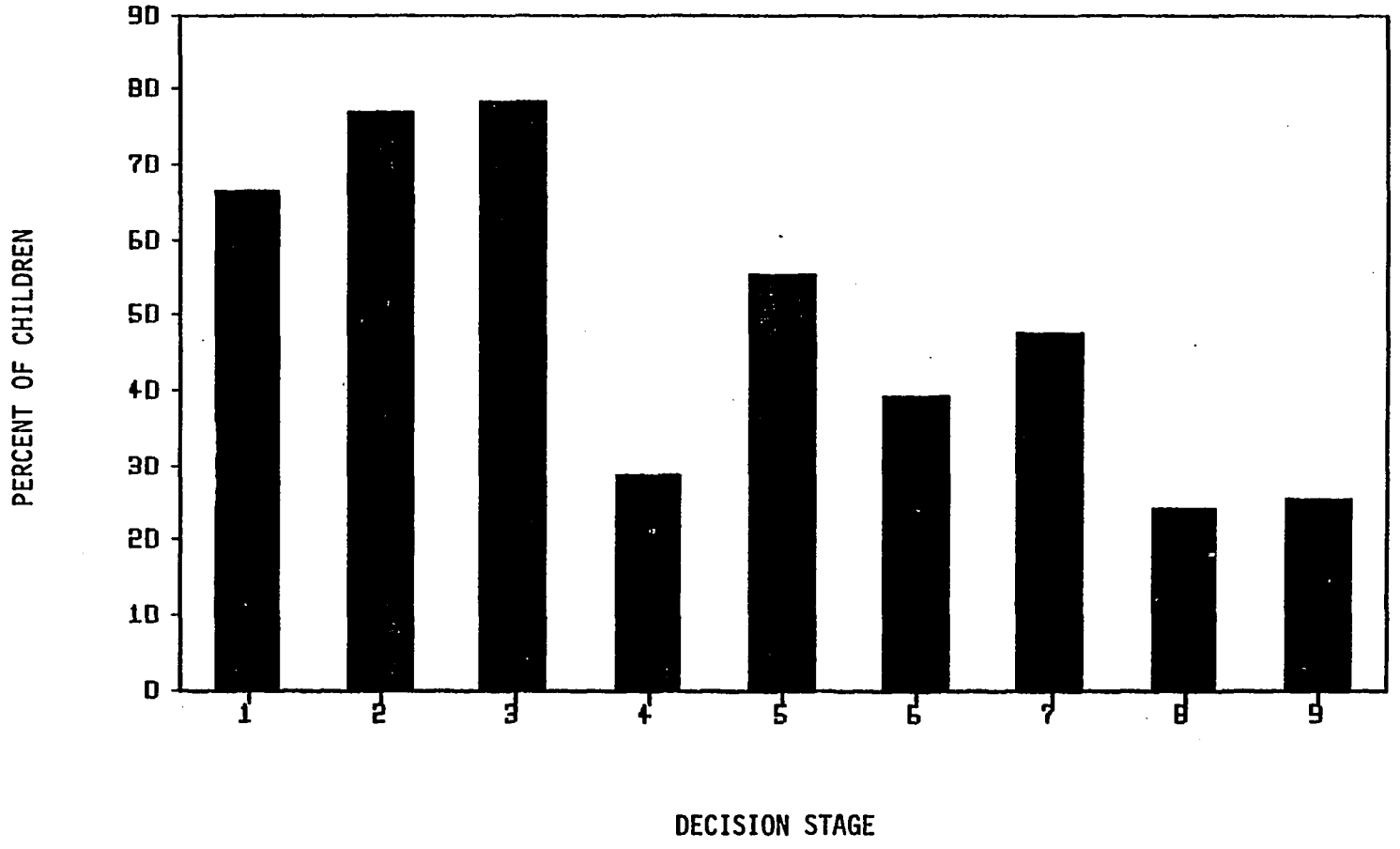


FIGURE 2: ACTIVE PARTICIPATION OF MOST ACTIVE CHILDREN BY DECISION STAGE

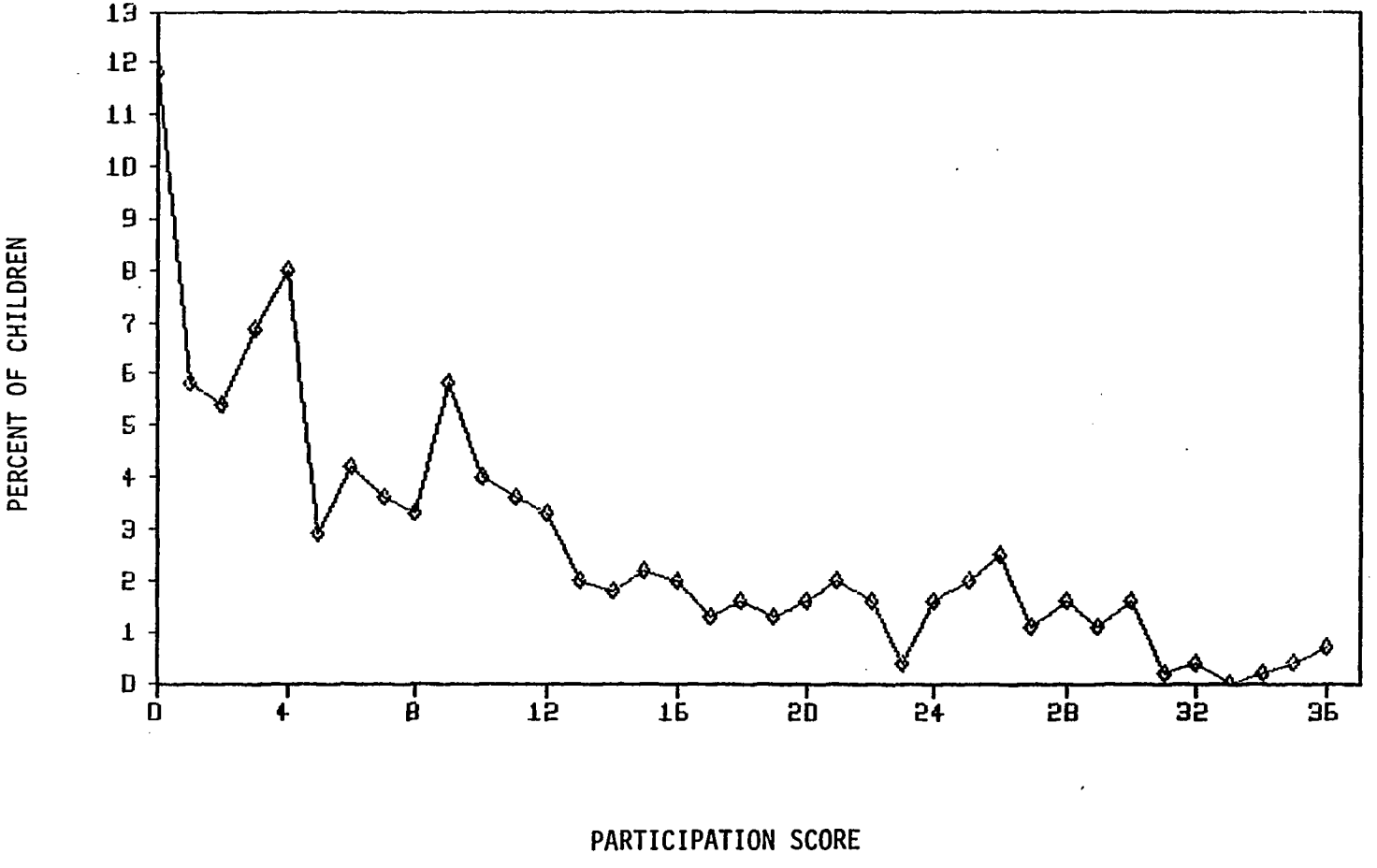


FIGURE 3: CHILD PARTICIPATION SCORES

TABLE 6

MULTIPLE REGRESSION ANALYSIS

OF CHILD PARTICIPATION IN FAMILY DECISION-MAKING

Variable	Standardized Beta	Significance	R^2Change
Whether or not computer mainly purchased for child	.3820	.001	.2218
Child's sex	.2676	.001	.0820
Child's age	.2183	.001	.0663
Number of children in the family	.1416	.003	.0185
Family income	-.1337	.001	.0138
Youngest child's age	.0769	.230	.0021
Number of employed parents	.0500	.230	.0007
Number of parents in household	.0241	.568	.0007
Percent of family income spent on the computer	.0031	.939	.0004

R^2 (using all variables) = .4098

Multiple R (using all variables) = .6402

Overall significance of model = .001

N = 419

last four variables in Table 6 were not significant at a measure of $p < .01$. Furthermore, these variables had a relatively small contribution to the regression model. However, they did contribute to the significance of the total regression model.

In examining the significant variables, the regression model shows that when the computer is purchased mainly for the family's children's use, then the child is more likely to participate actively in the decision-making process. This variable has a .38 standardized Beta and accounts for 22% of the variance in the child's participation. Of all the variables in the regression model, "for whom the computer was purchased" has the strongest contribution to the variance.

The next strongest contributor to the regression model is the variable, "child's sex." This variable has a standardized Beta of .27 and accounts for an additional 8% of the variance in the dependent variable. A male child is more likely to be a active participant than a female child.

Another child characteristic, "child's age," also proves to be an important variable. This variable has a standardized Beta of .22 and accounts for an additional 7% of the variance. The older the child than the more likely the child is to be an active participant in family decision-making.

The "number of children in the family" also affects a child's participation; the more siblings in the family then the more child participation. This variable has a standardized Beta of .14 and accounts for an additional 2% of the variance.

The last significant variable in this regression model is, "family income." This variable has a standardized Beta of -.13 and accounts for an additional 1% of the variance. This variable indicates that the more income a family has then the less likely the child is to be an active participant.

This multiple regression analysis found five significant variables that explain the variance in a child's participation in family decision-making for the purchase of a home computer. The regression model, using all variables, accounts for a total of 41% of the variance. Overall, the multiple R for this regression is .64 and the model is significant at $p < .001$.

Affect of Child Participation on Family Satisfaction

The third research question asks, "what influence does a family's child's participation have on the family's satisfaction with the home computer purchased?" In this question, family's satisfaction with their home computer is the dependent variable. Family satisfaction scores ranged from 15 to 60 (on a scale ranging from 12 to 60) with a median score of 49.0 (mean score of 48.5). (See Figure 4)

To evaluate this question, multiple regression analysis was applied. The dependent variable, family satisfaction, was regressed onto the independent variables according to the standard regression method (SPSS, 1975). Although the potential affect child participation has on family satisfaction is the question here, four other independent variables are included in the analysis to control

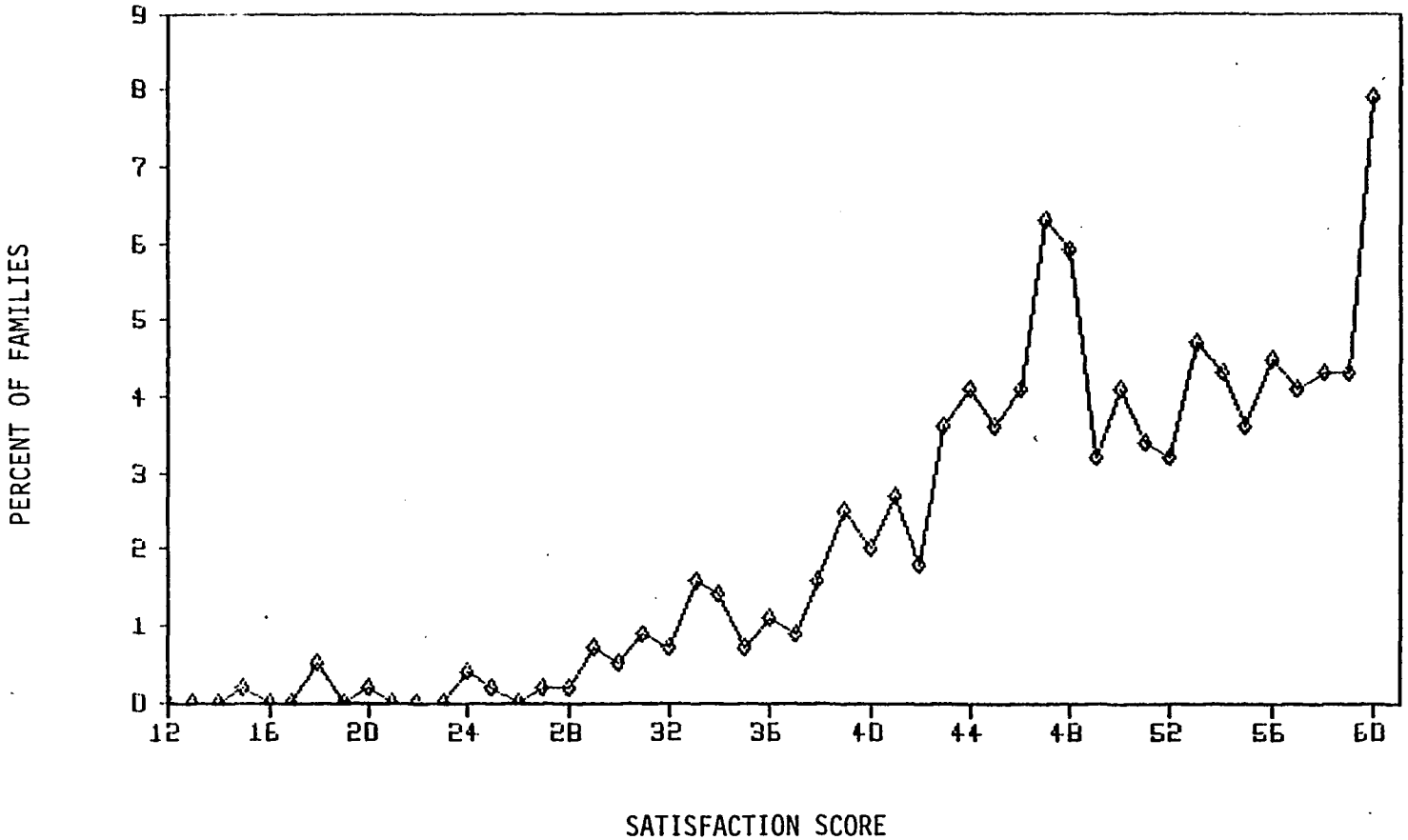


FIGURE 4: FAMILY SATISFACTION SCORES

for potentially confounding influences: child computer use in relation to parent expectations, whether or not computer mainly purchased for child, the length of computer ownership, and the total money spent on computer hardware.

The results of the regression analysis can be seen in Table 7. At a measure of $p < .01$, only the first variable in the table proves to be significant. This variable, child computer use in relation to parent expectations, accounts for 9% of the variance and has a standardized Beta of .34. Thus, it seems the more parent's expectations were met, then the more satisfied the family is with their home computer.

Of the other 3 variables controlled for in the regression model, total money spent on computer hardware, whether or not computer mainly purchased for child, and length of computer ownership, none have a large influence on family's satisfaction with their home computer. However, the Beta coefficient seems to indicate that positive relationships between total money spend on computer hardware and family satisfaction may exist. It seems that the more money spent for the computer than the more satisfied the family is likely to be with the computer. In contrast, a negative relationship between the other two variables, whether or not computer mainly purchased for child and length of computer ownership, and family satisfaction is indicated.

The variable of main concern, child participation in family decision-making, is not significant at $p < .01$, nor does it contribute much (less than .01) to the model's explained variance. The

TABLE 7

MULTIPLE REGRESSION ANALYSIS

OF CHILD PARTICIPATION AFFECT ON FAMILY SATISFACTION

Variable	Standardized Beta	Significance	R^2Change
Child computer use in relation to parent expectations	.3432	.001	.0920
Total money spent on computer hardware	.1116	.016	.0143
Whether or not computer mainly purchased for child	-.1092	.037	.0105
Child participation score	-.1044	.061	.0008
Length of computer ownership	-.0344	.485	.0011

R^2 (using all variables) = .0776

Multiple R (using all variables) = .2785

Overall significance of model = .001

N = 423

standardized Beta of -.10 seems to indicate a negative relationship between child participation and family satisfaction, such that with increased child participation a family would be likely to experience decreased satisfaction with the purchased computer. However, an examination of bivariate correlations of the variable, "child participation," with other variables suggests another explanation. Table 8 contains bivariate correlations between the variables in this regression analysis. Note the relatively higher correlations between "child computer use in relation to parent expectations" and both "child participation" and "family satisfaction." In contrast, practically no correlation exists between "child participation" and "family satisfaction." These relationships indicate an intervening affect in the regression analysis by the variable "child computer use in relation to parent expectation" for the relationship of "child participation" affect on "family satisfaction." Because "child computer use in relation to parent expectation" interacts with "child participation" it causes an increase in relative influence of participation on satisfaction. This is shown through the increase of the standardized Beta and R^2 change values for the variable "child computer use in relation to parent expectation." Also, most importantly, the interaction increases the standardized Beta and R^2 values for the variable "child participation" so that it seems that child participation affects family satisfaction. Actually, by examining the bivariate correlations, it is clear the "child participation" variable by itself does not contribute significantly to the variable "family satisfaction."

TABLE 8

BIVARIATE CORRELATIONS OF VARIABLES

IN MULTIPLE REGRESSION ANALYSIS OF CHILD PARTICIPATION

AFFECT ON FAMILY SATISFACTION

Length of computer ownership	-.0285				
Whether or not computer mainly purchased for child	-.1018	-.0126			
Child participation score	-.0224	-.0653	.4686		
Total money spent on computer hardware	.1312	.0233	-.1328	-.0572	
Child computer use in relation to parent expectations	.2785	.0164	.2057	.3981	.0005
	Family satisfaction	Length of ownership	Mainly purchased for child	Child participation score	Money spent

CHAPTER 5

CONCLUSION

This chapter will discuss the research results in reference to family decision-making theory so that it may add to the framework of our understanding of family decision-making processes. As well as applying these research results to current family decision-making knowledge, potential implications and areas of further research suggested from this project will be discussed. This chapter will present a cohesive view of children's participation in family decision-making for purchasing a home computer.

Discussion of Results

Children's participation in the family decision-making process for home computers -- now that the research is complete, what can be said? So far only the statistical analysis has been presented. In the following sections, the meaning of this analysis will be discussed. At which stages of decision-making do children actively participate? What factors influence child participation in family decision-making? And, does child participation affect family satisfaction with the purchased product? These are the questions that need to be answered.

Extent of Children's Participation

When considering the overall family decision-making process, from initially suggesting the purchase of a computer through the actual purchase of the computer, children seem to have minimal active participation. However, if each step of the decision process is examined, then children's influence becomes much more apparent. From Table 1, it is clear that active participation by children varies among the purchase steps for the home computer purchase.

Previous research suggested that children might be highly active participants in suggesting that a home computer be purchased. Ward (1972) reported that children often ask for items to be purchased and that parents tend to respond to their request. In this research study we find that 23% of the children had a major to extensive role in suggesting that a home computer be purchased, with 57% of the children participating to some degree at this stage.

Children may often be the family member most experienced with home computers. It has been suggested that this experience could lead to children becoming family authorities on computer use (Caruso, 1983). Thus, it is not surprising that the purchase steps "discussing for what activities your family would use a home computer" and "providing suggestions on desired software," were steps at which the children were the most active. Over 67% of the children were active participants at these two steps, with 21% and 28% of the children participating at major and extensive levels.

Children's high participation at these three purchase steps proves that their influence in family decision-making is of

importance. Clearly children participate actively at the beginning of the decision-making process and thus, contribute significantly to the process.

Factors Affecting Child Participation

Jagadish Sheth's family decision-making theory predicts several factors that affect whether or not a family decision is made autonomously or jointly (Sheth, 1974). Among these factors are social class, role orientation, family life cycle, and importance of the purchase decision. This research project investigated whether these variables affect a child's participation in the family decision-making process for purchasing a home computer.

The first factor, social class, does affect a child's participation. For this research, family income was used as a measure of social class. It seems that parents with higher income perceive their children as having less active participation in family decision-making. These results support Jenkins (1978) research results on children's participation in family vacation planning. In his study, fathers with higher education levels perceived their children as having less influence on the decision process. Parents' education level was used by Jenkins as a measure of social class. It seems that children from families of higher social class participate less in family decision-making. Perhaps families from a higher social class purchase items for their children, even before the child has requested the item, in order to potentially improve their child's future.

The next factor, role orientation, also is important to a child's participation. A child's role orientation is defined by the child's own characteristics as well as the child's family structure. This study found the child's personal characteristics strongly affected whether or not the child was an active participant.

Two characteristics defined the child in this study: age and sex. This research supports other studies by Ward (1972) and Jenkins (1978) in which older children participate more actively in family decision-making. Also, as predicted, male children are more active participants. It seems that a significant percent of our society considers computers (both the use and purchase) to be a male dominated domain. Just as more boys than girls have access to computer classes and home computers (Miura, 1984; Beyers, 1984), they also are included more in the family decision-making for purchasing a home computer. This unfortunate trend is sure to have consequences for our society in the future. For example, if girls are not provided with equal opportunities to experiment with computers at a young age, they are likely to be less comfortable with computers (as well as other forms of high technology) when they mature. These young women are then unlikely to take full advantage of technology related education and employment opportunities.

Several family structure characteristics were included in the study as a measure of role orientation. Of these characteristics, only the number of children in the family proved to be important. The more siblings a child has, then the child has more perceived influence. This result also supports Jenkins (1978) research; he

found that children were perceived to have more influence on family vacation planning as the family's size increased. However, other family structure characteristics included in this study, (number of employed parents and number of parents in the household) were not found to be important for the problem of purchasing a home computer.

Family life cycle is another factor hypothesized by Sheth to be influential in joint decision-making. For this study, family life cycle was defined as the age of the family's youngest child. However, this variable did not significantly affect the child's participation in the family decision-making. Thus, it would seem that family life cycle is not highly influential for the home computer decision.

The last factor considered is the importance of the purchase. The importance of the purchase to the family was measured by the percent of the family's income spent on the computer. This percent did not affect a child's participation significantly. However, the importance of the purchase to the child (measured by whether or not the computer was mainly purchased for the children) was highly influential to the child's participation. It seems that if the purchase was important to the child, then the child was more likely to be an active participant. Therefore, once again a factor closely related to the child's predisposition is influential in the joint decision-making.

Overall, many of the factors predicted by Sheth and subsequently investigated in this research project prove to be factors that affect whether or not the decision will be made jointly or autonomously. Thus, we have gained understanding of the family

decision-making process in that the relevance of the Sheth model to the problem of purchasing a home computer is now clear.

Affect of Child Participation on Family Satisfaction

When considering children's participation in family decision-making a natural question arises; does this participation have an affect on a family's subsequent satisfaction with the decision? Thus, the affect of a child's participation in family decision-making on family's satisfaction with their home computer was examined.

From the research results, it seems that a child's participation does not significantly affect a family's subsequent satisfaction with their home computer. Although one might predict that family decision-making which included children would improve the family's satisfaction with the decision outcome, this was not found to be true. It is important to note, though, that family satisfaction with home computers was very high for most families. Perhaps the families in this study functioned effectively in their decision-making, with or without their children's help, and therefore, their satisfaction was not affected by the children's participation.

Implications for Family Decision-Making Research

Most family decision-making research has excluded children's role in decision-making on the assumption that their role would be insignificant. However, the results from this research have shown that children are significant participants in family decision-making for a relatively major purchase - the home computer. Thus, it seems that future family decision-making research should include children's

participation to truly gain an understanding of family decision-making process, especially if it is a decision involving a product the children may use.

When researching children's role in family decision-making, it may be most accurate to collect participation data for the family's child who participated most in that decision. In past research, all of the family's children's participation has been lumped into one. However, it makes sense to hypothesize that one child may be active for one particular decision, and another child for another decision. Thus, lumping children into one category diminishes the extent of participation by averaging very active children with nonactive children. If the researcher is interested in who is affecting the decision, then the averaging (and subsequently diminishing) of children's participation is misleading.

This study's results indicate that collecting and utilizing data of the family's child with the most participation will provide accurate data in terms of participation by decision stage. Figure 5 shows a comparison of the percent of active participation at each decision stage for all the children versus the most active child from each family. The children's relative participation by stage is very similar, and thus confirms the reasonability of utilizing data from each family's most active child.

This study found that a child's characteristics highly affected their participation level in family decision-making. For instance, a child's sex and age both strongly contributed to explaining the variance in child participation scores. This suggest

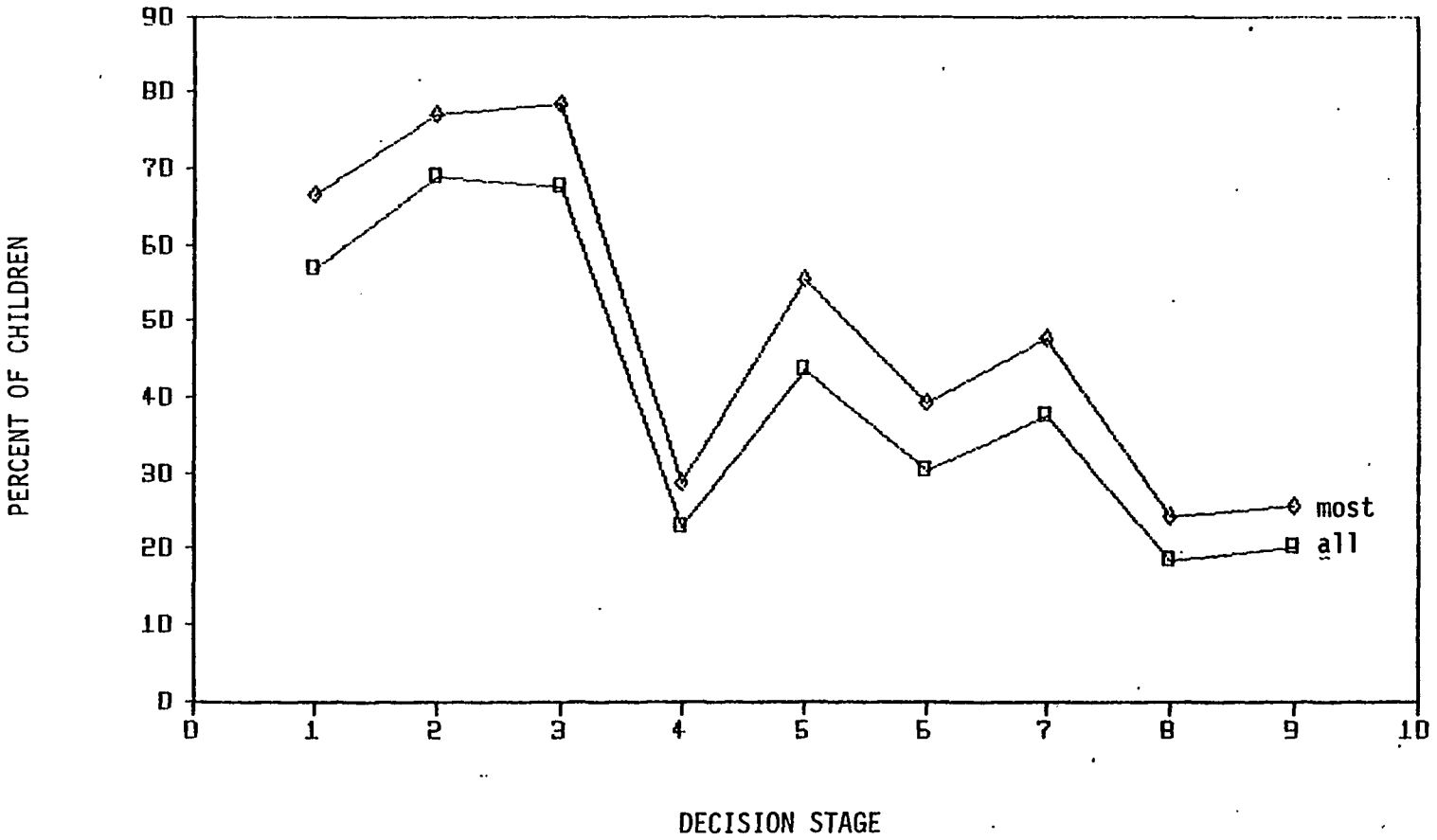


FIGURE 5: COMPARISON OF ACTIVE PARTICIPATION OF ALL CHILDREN AND MOST ACTIVE CHILDREN

that future family decision-making research should examine other child characteristics to gain a better understanding of the factors that affect a child's participation. Some characteristics to consider include a child's personality characteristics, social interactions, locus of control, previous exposure to computers and other technology, and willingness to experiment.

It seems from this research that child participation in family decision-making does not affect family satisfaction with a home computer. However, what else may affect family satisfaction was not focused upon in this research. Why some families are more satisfied with their home computer than other families is an area of research for the future.

Summary

This research project has examined children's participation in the family decision-making process for purchasing a home computer from a variety of aspects. The extent to which children participate in decision-making and the stages at which participation occurs has been evaluated. Factors which affect a child's participation have been analyzed. Also, the potential affect of a child's participation on the family's eventual satisfaction with the purchased computer was examined. From these three aspects, a better understanding of children's role in family decision-making has resulted.

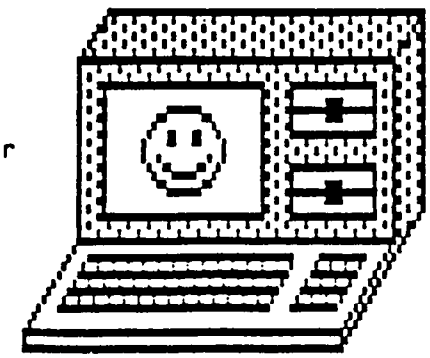
APPENDIX A: RESEARCH INSTRUMENT

RESEARCH QUESTIONNAIRE

FAMILIES AND COMPUTERS

This survey is concerned with families' decisions to purchase home computers. To complete the questionnaire you will need about fifteen minutes. By completing the questionnaire, it is assumed that your consent to participate in this study has been given. Please answer all the questions; any additional comments you wish to make will be read and taken into account.

School of Family and Consumer Resources
University of Arizona
Tucson, Arizona 85721



The following questions will provide us with general information about your home computer. If you own more than one home computer, please answer all of the questions as they apply to the computer you most recently purchased.

Q-1 When did you purchase your home computer? _____
month/year

Q-2 What type of home computer do you own? _____
brand/model

Q-3a. Approximately how much did you initially spend on your computer system? $_____

b. Since your initial purchase, approximately how much have you spent on:

1) additional hardware $_____

none _____

2) additional software $_____

none _____

3) repairs $_____

none _____

c. In the next 12 months approximately how much do you plan to spend on:

1) additional hardware $_____

none _____

2) additional software $_____

none _____

Q-4 Your computer was <u>mainly</u> purchased for whom? (Circle number)

1 CHILDREN
2 SELF
3 SPOUSE
4 FAMILY AS A WHOLE
5 FAMILY MEMBER FOR BUSINESS USE ONLY

The next set of questions is concerned with your expectations for your home computer when you purchased it.

INSTRUCTIONS: Please complete the following statements in relation to your <u>original</u> expectations when you purchased your home computer. Please use the scale below.

MUCH LESS THAN EXPECTED	LESS THAN EXPECTED	THE EXPECTED AMOUNT	MORE THAN EXPECTED	MUCH MORE THAN EXPECTED
1	2	3	4	5

	MUCH LESS	LESS	AS EXPECTED	MORE	MUCH MORE
1. The total amount of money we have spent on computer hardware is:	1	2	3	4	5
2. The total amount of money we have spent on software programs is:	1	2	3	4	5
3. The amount of software we need (beyond what we initially purchased with the computer) is:	1	2	3	4	5
4. The amount of time the children use the computer each week is:	1	2	3	4	5
5. The amount of time the parents use the computer each week is:	1	2	3	4	5
6. The benefit the children have gained from having a home computer is:	1	2	3	4	5
7. The benefit the parents have gained from having a home computer is:	1	2	3	4	5
8. The benefit the whole family has gained from having a home computer is:	1	2	3	4	5

Now we would like to know which family members actively participated in the process of buying your home computer.

PLEASE READ ALL INSTRUCTIONS CAREFULLY

DEFINITION: **active participation** means "involvement in the purchase by talking to other family members about the purchase, joining in shopping trips, gathering information, or other such activities." If other family members consider a child's needs during the purchase, this does not make the child an active participant.

INSTRUCTIONS: For Q-6 Please complete the grid on the following page.

a) Starting with your oldest child between 5 and 18 years old, enter in the appropriate space (on the next page) the current age of each family member. If you have more than 5 children between 5 and 18 years old, then please check this box ☐

b) Please enter in the appropriate space the sex of each family member.

c) Please enter in the appropriate space the approximate number of hours per week each family member uses the computer.

d) Please score each family member on the extent of their active participation in the computer purchase. Use the number scale below to score each family member for each purchase step.

NO PARTICIPATION	LITTLE PARTICIPATION	MODERATE PARTICIPATION	MAJOR PARTICIPATION	EXTENSIVE PARTICIPATION
0	1	2	3	4

FOR EXAMPLE:

On the first step, ("initially suggesting to purchase a home computer") give a score of 1 in the appropriate box for each member with little participation.

Participation Key	
none	0
little	1
moderate	2
major	3
extensive	4

PURCHASE STEPS	Q-6	Child #1	Child #2	Child #3	Child #4	Child #5	Self	Spouse
	a. age							
	b. sex							
	c. hours per week							
1. Initially suggesting to purchase a home computer.								
2. Discussing for what activities your family would use a home computer.								
3. Providing suggestions on desired software.								
4. Deciding how much to spend on a home computer.								
5. Sharing computer information learned at school.								
6. Sharing computer information learned at work.								
7. Sharing computer information learned from friends or computer owners.								
8. Sharing computer information learned from magazine articles.								
9. Sharing computer information learned from television or radio.								
10. Sharing computer information from advertisements.								
11. Sharing computer information learned from store personnel.								
12. Overall gathering and sharing information about different home computers.								
13. Identifying the home computers that meet your family's needs and also fits your budget.								
14. Choosing which specific home computer to purchase.								
15. Deciding where to purchase the home computer.								
16. Actually purchasing your home computer.								

→ Q-7 On a scale from 0 to 100, with 0 being absolutely no participation, the amount my children participated in purchasing a home computer is _____ (number).

Another important part of this study is to learn how satisfied families are with their home computer.

→ Q-8 Below are several statements about your computer. Please read each one and tell us how much you agree or disagree with the statement by circling the appropriate answer to the right.

	STRONGLY AGREE	AGREE	NEITHER AGREE NOR DISAGREE	DISAGREE	STRONGLY DISAGREE
a. This is one of the best computers we could have bought.	SA	A	N	D	SD
b. This computer is exactly what we need.	SA	A	N	D	SD
c. This computer hasn't worked out as well as we thought it would.	SA	A	N	D	SD
d. We are satisfied with our decision to buy this computer.	SA	A	N	D	SD
e. Sometimes we have mixed feelings about keeping it.	SA	A	N	D	SD
f. Our choice to buy this computer was a wise one.	SA	A	N	D	SD
g. If we could do it over again, we'd buy a different brand/model.	SA	A	N	D	SD
h. We have truly enjoyed this computer.	SA	A	N	D	SD
i. We feel bad about our decision to buy this computer.	SA	A	N	D	SD
j. We are <u>not</u> happy that we bought this computer.	SA	A	N	D	SD
k. Owning this computer has been a good experience.	SA	A	N	D	SD
l. We're sure it was the right choice to buy this computer.	SA	A	N	D	SD

→ Q-9 On a scale from 0 to 100, with 0 being completely dissatisfied, my family's overall satisfaction with our home computer is _____ (number).

Finally, we would like to ask a few questions about your family for statistical purposes.

Q-10 Your present marital status. (Circle number)

1 NEVER MARRIED
2 MARRIED
3 DIVORCED
4 SINGLE
5 WIDOWED

Q-11 What is the highest level of education that you and your spouse have completed? (Circle number)

SELF	SPOUSE	
1	1	NO FORMAL EDUCATION
2	2	SOME GRADE SCHOOL
3	3	COMPLETED GRADE SCHOOL
4	4	SOME HIGH SCHOOL
5	5	COMPLETED HIGH SCHOOL
6	6	SOME COLLEGE OR TECHNICAL SCHOOL
7	7	COMPLETED TECHNICAL SCHOOL
8	8	COMPLETED COLLEGE
9	9	SOME GRADUATE SCHOOL
10	10	COMPLETED GRADUATE SCHOOL

Q-12 What is your present occupation? _____

Q-13 If married, what is your spouse's present occupation?

_____

Q-14 What was your approximate total family income from all sources, before taxes, in 1984? (Circle number)

1 LESS THAN $10,000
2 $10,000 - $14,999
3 $15,000 - $19,999
4 $20,000 - $24,999
5 $25,000 - $29,999
6 $30,000 - $34,999
7 $35,000 - $39,999
8 $40,000 - $49,999
9 $50,000 - $60,000
10 MORE THAN $60,000

Is there anything else you would like to add about your family's decision to purchase a computer or your family's satisfaction with the computer? If so, please make your comments in the space provided below.

Thank you very much for completing this questionnaire. If you would like a summary of the research results, please print "research results requested" along with your name and address on the back of the return envelope (not on this questionnaire). I will gladly send you the results as soon as the study is completed.

CORRESPONDENCE WITH FAMILIES

Please return either this postcard or the questionnaire. Please check the statement below that explains why you are returning this postcard, and not returning the questionnaire.

☐ I do not have children between 5 and 18 years old.

☐ I do not own a computer which is used primarily in the home.

☐ I prefer not to participate in this study.

Thank you for taking the time to return this postcard. Your effort will greatly enhance the quality of this research.

Last week a questionnaire dealing with purchasing a home computer was mailed to you. Your household was randomly drawn from a small number of people likely to own a home computer.

If you have already returned the questionnaire, then thank you very much. I appreciate the time and effort you used to complete the questionnaire.

If you have not returned the questionnaire, then please do so as soon as possible. Your response is critical to the success of this research; every response provides important information about home computer purchases.

If you did not receive a questionnaire, or if you need another one, please call collect (602-621-7137) and I will immediately send one to you.

Sincerely,

Kathryn L. Swedlow Marc S. Wilson

THE UNIVERSITY OF ARIZONA
TUCSON, ARIZONA 85721

COLLEGE OF AGRICULTURE
SCHOOL OF FAMILY AND CONSUMER RESOURCES

Hello,

Today many families are buying computers for home use. In order to complete my Master of Science degree in Consumer Studies, I am surveying families with children about their decision to purchase a home computer. The results of this research will aid families like yourself who purchase a home computer.

Your name was randomly chosen from households likely to own a home computer. Enclosed you will find a questionnaire and a postcard. For this study to be effective, it is very important that each household contacted return either the questionnaire or the postcard.

1) If your household has children between 5 and 18 years old and owns a home computer, then I would like the parent most active in the home computer purchase to complete the questionnaire.

2) If your household does not have children or a home computer, or if you would prefer not to participate in this study, please complete the postcard.

Your answers are completely confidential. The identification number on the questionnaire and postcard is used to remove your name from the original mailing list. Once you return either the questionnaire or the postcard, you will receive no further mailings from us.

I am very excited about doing this research and look forward to your cooperation. Thank you very much for your assistance.

Sincerely,

Kathryn L. Sweedler
Graduate Student

Mari S. Wilhelm, Ph.D.
Assistant Professor
and Major Advisor

THE UNIVERSITY OF ARIZONA
TUCSON, ARIZONA 85721

COLLEGE OF AGRICULTURE
SCHOOL OF FAMILY AND CONSUMER RESOURCES

Hello,

Three weeks ago you were mailed a questionnaire dealing with families' decisions to purchase home computers. I have not yet received your completed questionnaire. In order to complete my thesis for a Master of Science degree in Consumer Studies, it is important that you complete and return the questionnaire as soon as possible. Your response is very important so that this research will be more representative of families like yourself who purchase a home computer.

In case you did not receive the first questionnaire, or if you misplaced it, enclosed you will find another copy of the questionnaire and postcard. Please return either the questionnaire or the postcard.

1) If your household has children between 5 and 18 years old and owns a home computer, then I would like the parent most active in the home computer purchase to complete the questionnaire.

2) If your household does not have children or a home computer, or if you would prefer not to participate in this study, please complete the postcard.

Your answers are completely confidential. The identification number on the questionnaire and postcard is used to remove your name from the original mailing list. I am very excited about doing this research and look forward to your response. Thank you very much for your assistance.

Sincerely,

Kathryn L. Sweedler
Graduate Student

Mari S. Wilhelm, Ph.D.
Assistant Professor
and Major Advisor

APPENDIX B: DATA TABLES

TABLE 9

MARITAL STATUS OF PARENTS

Status	Frequency	Percent
Married	412	92.2
Divorced	27	6.0
Widowed	4	0.9
Never Married	3	0.7
Single	1	0.2
	447	100.0

TABLE 10

NUMBER OF CHILDREN PER FAMILY

Number of Children	Frequency	Percent
One	153	34.2
Two	202	45.1
Three	75	16.7
Four	13	2.9
Five	4	0.9
Six or more	1	0.2
	448	100.0

TABLE 11

AGE OF PARENTS

Age Category	Mother		Father	
	Frequency	Percent	Frequency	Percent
21 to 25 years	3	.8	3	.8
26 to 30 years	25	6.8	13	3.6
31 to 35 years	80	21.6	54	15.0
36 to 40 years	146	39.4	112	31.0
41 to 45 years	89	24.0	107	29.6
46 to 50 years	17	4.6	52	14.4
51 to 55 years	8	2.2	12	3.3
56 to 60 years	1	0.3	5	1.4
61 to 65 years	1	0.3	1	0.3
66 to 70 years	0	0.0	2	0.6
	370	100.0	361	100.0

TABLE 12

EDUCATION LEVEL OF PARENTS

Education Category	Mother		Father	
	Frequency	Percent	Frequency	Percent
No Formal Education	0	0.0	0	0.0
Some Grade School	3	0.7	1	0.3
Completed Grade School	2	0.5	1	0.3
Some High School	14	3.5	10	2.5
Completed High School	93	23.1	40	10.2
Some College or Technical School	121	30.0	102	25.9
Completed Technical School	36	8.9	46	11.7
Completed College	72	17.9	75	19.0
Some Graduate School	31	7.7	45	11.4
Completed Graduate School	31	7.7	74	18.8
	394	100.0	394	100.0

TABLE 13

ANNUAL GROSS INCOME OF FAMILIES

Income Category	Frequency	Percent
Less than $10,000	6	1.4
$10,000 - $14,999	15	3.5
$15,000 - $19,999	21	4.8
$20,000 - $24,999	32	7.4
$25,000 - $29,999	40	9.2
$30,000 - $34,999	60	13.9
$35,000 - $39,999	43	9.9
$40,000 - $49,999	83	19.2
$50,000 - $60,000	57	13.2
More than $60,000	76	17.5
	433	100.0

TABLE 14

NUMBER OF EMPLOYED PARENTS

Number of Employed Parents	Frequency	Percent
Zero	6	1.3
One	189	42.5
Two	250	56.2
	445	100.0

TABLE 15

TIME FAMILIES SPENT USING COMPUTER

Number of Hours Per Week	Frequency	Percent
0 - 5	93	21.5
6 - 10	92	21.3
11 - 15	51	11.8
16 - 20	40	9.2
21 - 25	37	8.6
26 - 30	37	8.6
31 - 35	22	5.1
36 - 40	13	3.0
41 - 45	16	3.7
46 - 50	10	2.3
51 - 55	5	1.2
56 - 60	5	1.2
61 - 65	3	0.7
66 - 75	1	0.2
76 - 90	3	0.7
91 - 110	3	0.7
141	1	0.2
173	1	0.2
	433	100.0

TABLE 16

FOR WHOM THE COMPUTER WAS MAINLY PURCHASED

Whom	Frequency	Percent
Children	90	20.2
Self	116	26.0
Spouse	1	0.2
Family as a whole	230	51.6
Family member for business use only	9	2.0
	446	100.0

TABLE 17

TYPES OF COMPUTERS OWNED BY FAMILIES

Brand	Frequency		Brand	Frequency	
Commodore:			Atari:		
Commodore 64	188		Atari 800xl	74	
Commodore Vic 20	19		Atari 400	5	
Commodore 8096	1		Atari 1200	4	
Commodore Pet	2		Atari 600xl	3	
			Atari 130xe	1	
	210	(47.1%)		87	(19.5%)
Apple:			IBM:		
Apple IIe	20				
Apple IIc	14		IBM PCjr	18	
Apple II+	4		IBM PC	11	
AppleMac	3		IBM PCXT	4	
Apple III	1		IBM AT	2	
	42	(9.4%)		35	(7.8%)
TI 99	27	(6.1%)	Radio Shack/Tandy:		
			TRS 80	10	
			Tandy 1000	2	
Coleco Adam	5	(1.1%)	Tandy 4P	2	
			TRS 60	1	
			Tandy 2000	1	
			TRS 100	1	
Franklin:					
Franklin 1200	2			17	(3.8%)
Franklin Ace	1				
			Timex Sinclair	3	(0.7%)
	3	(0.7%)			
Compaq Portable	2	(0.4%)	Other Brands	13	(2.9%)

TABLE 18

NUMBER OF MONTHS SINCE COMPUTER PURCHASE

Months	Frequency	Percent
1 - 6	32	7.3
7 - 12	123	27.8
13 - 18	56	12.7
19 - 24	104	23.6
25 - 30	53	12.0
31 - 36	39	8.9
37 - 42	14	3.2
43 - 48	10	2.3
49 - 54	3	0.7
55 - 60	3	0.7
61 - 66	2	0.4
67 - 72	1	0.2
73 - 78	0	0.0
79	1	0.2
	441	100.0

TABLE 19

AMOUNT OF MONEY SPENT ON
COMPUTER SYSTEM AT INITIAL PURCHASE

Dollars Spent	Frequency	Percent
0 - 300	127	28.8
301 - 600	98	22.2
601 - 900	60	13.6
901 - 1200	59	13.4
1201 - 1500	23	5.2
1501 - 1800	7	1.6
1801 - 2100	17	3.9
2101 - 2400	12	2.7
2401 - 2700	9	2.0
2701 - 3000	13	3.0
3001 - 4000	5	1.1
4001 - 5000	2	0.5
5001 - 6000	4	0.9
6001 - 7000	3	0.7
7500	1	0.2
9000	1	0.2
	441	100.0

TABLE 20

AMOUNT OF MONEY SPENT ON ADDITIONAL HARDWARE AND SOFTWARE

Dollars Spent	Additional Hardware Frequency	Additional Hardware Percent	Additional Software Frequency	Additional Software Percent
0 - 50	138	31.5	84	19.0
51 - 100	34	7.8	73	16.6
101 - 150	11	2.5	41	9.3
151 - 200	35	8.0	78	17.7
201 - 300	47	10.7	58	13.2
301 - 400	30	6.9	26	6.0
401 - 600	56	12.7	42	9.5
601 - 800	35	8.0	7	1.5
801 - 1000	24	5.5	15	3.5
1001 - 1500	18	4.1	7	1.6
1501 - 2500	2	0.5	5	1.2
2501 - 3500	3	0.7	2	0.4
3501 - 4500	1	0.2	2	0.4
5000	0	0.0	1	0.2
7500	2	0.5	1	0.2
8096	1	0.2	0	0.0
above 9999	1	0.2	0	0.0
	438	100.0	441	100.0

TABLE 21

TOTAL AMOUNT OF MONEY SPENT ON COMPUTER SYSTEM

Dollars Spent	Frequency	Percent
0 - 400	61	14.0
401 - 800	112	25.8
801 - 1200	98	22.5
1201 - 1600	61	14.0
1601 - 2000	27	6.2
2001 - 2400	19	4.4
2401 - 2800	15	3.4
2801 - 3200	16	3.7
3201 - 3600	5	1.2
3601 - 4000	3	0.7
4001 - 5000	6	1.4
5001 - 6000	2	0.5
6001 - 7000	3	0.7
7001 - 8000	3	0.7
8001 - 9000	1	0.2
10000	1	0.2
15000	1	0.2
18999	1	0.2
	435	100.0

TABLE 22

AMOUNT OF MONEY FAMILIES PLAN TO SPEND
ON HARDWARE AND SOFTWARE IN THE NEXT 12 MONTHS

Dollars Planned	Additional Hardware Frequency	Percent	Additional Software Frequency	Percent
0	215	50.1	96	23.0
1 - 100	32	7.5	168	40.2
101 - 200	49	11.4	89	21.3
201 - 400	65	15.2	31	7.4
401 - 600	32	7.5	25	6.0
601 - 800	8	1.9	0	0.0
801 - 1000	12	2.8	4	1.0
1001 - 2000	10	2.3	2	0.4
2001 - 3000	4	0.9	3	0.7
3001 - 4000	1	0.2	0	0.0
over 9999	1	0.2	0	0.0
	429	100.0	418	100.0

TABLE 23

AMOUNT OF MONEY SPENT ON COMPUTER REPAIRS

Dollars Spent	Frequency	Percent
0	348	79.4
1 - 50	37	8.4
51 - 100	31	7.1
101 - 150	10	2.3
151 - 200	8	0.4
201 - 400	2	0.4
401 - 600	2	0.4
650	1	0.2
	439	100.0

TABLE 24

SEX OF CHILDREN

Sex	All Children Frequency	All Children Percent	Most Active Children Frequency	Most Active Children Percent
Male	467	57.6	297	66.4
Female	344	42.4	150	33.6
	811	100.0	447	100.0

TABLE 25

AGE OF CHILDREN

Age	All Children Frequency	All Children Percent	Most Active Children Frequency	Most Active Children Percent
5	52	6.4	12	2.7
6	52	6.4	22	4.9
7	66	8.1	31	7.0
8	68	8.4	31	7.0
9	62	7.6	34	7.6
10	66	8.1	37	8.3
11	69	8.5	43	9.6
12	71	8.8	41	9.2
13	88	10.8	60	13.4
14	77	9.5	49	11.0
15	61	7.5	41	9.2
16	45	5.6	25	5.6
17	30	3.7	19	4.3
18	5	0.6	1	0.2
	812	100.0	446	100.0

TABLE 26

TIME CHILDREN SPENT USING COMPUTER

Number of Hours Per Week	All Children Frequency	All Children Percent	Most Active Children Frequency	Most Active Children Percent
0	119	15.0	40	9.2
1 - 2	242	30.6	109	25.1
3 - 4	124	15.7	72	16.6
5 - 6	82	10.4	48	11.1
7 - 8	39	4.9	26	6.0
9 - 10	73	9.2	48	11.1
11 - 14	23	2.9	20	4.6
15 - 18	27	3.4	19	4.4
19 - 22	29	3.7	24	5.6
23 - 26	10	1.3	8	1.8
27 - 30	9	1.1	8	1.8
31 - 40	7	0.9	7	1.6
41 - 50	6	0.8	4	0.9
72	1	0.1	1	0.2
	791	100.0	434	100.0

TABLE 27

CHILD PARTICIPATION SCORES

Score	Frequency	Percent
0	53	11.8
1 - 2	50	11.2
3 - 4	67	15.0
5 - 6	32	7.1
7 - 8	31	6.9
9 - 10	44	9.8
11 - 12	31	6.9
13 - 14	17	3.8
15 - 16	19	4.2
17 - 18	13	2.9
19 - 20	13	2.9
21 - 22	16	3.6
23 - 24	9	2.0
25 - 26	20	4.5
27 - 28	12	2.7
29 - 30	12	2.7
31 - 32	3	0.7
33 - 34	1	0.2
35 - 36	5	1.1
	448	100.0

TABLE 28

FAMILY SATISFACTION SCORES

Score	Frequency	Percent
12 - 15	1	0.2
16 - 19	2	0.4
20 - 23	1	0.2
24 - 27	4	0.9
28 - 31	10	2.3
32 - 35	19	4.3
36 - 39	27	6.1
40 - 43	45	10.2
44 - 47	80	18.1
48 - 51	73	16.5
52 - 55	70	15.8
56 - 59	76	17.1
60	35	7.9
	443	100.0

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